

City of
Fitchburg



Department of
Public Works

301 Broad Street
Fitchburg, MA 01420
Phone: 978-829-1900

STREET EXCAVATION & RESTORATION POLICY	
Date: April 15, 2020	Version: 1.0
Approved: <i>Nicolas Bosonetto</i>	
Nicolás H. Bosonetto, PE – Commissioner of Public Works/City Engineer	

Section I – Permit Requirements

Applicable Projects: This policy shall apply to all excavations within any City right-of-way. The policy applies to all utilities, private contractors, and City of Fitchburg Departments and Divisions thereof.

References: [§157-46 Excavation Permit Required; restoration;](#)
[§157-47 Cash Security and indemnity agreements;](#)
[§157-48 Repairs after excavations;](#)
[Mass Dept. of Telecommunications and Energy Standards \(DTE\) 98-22](#)

Permit Required: Per City of Fitchburg code of ordinances, “no person or City department shall dig up or make any excavations in any part of any street or sidewalk without a written permit from the Commissioner of Public Works.” Excavations include any drilling or boring into the right-of-way.

A Street Opening Permit application can be filled out through the city’s online portal at: <https://fitchburgma.viewpointcloud.com/> by selecting DPW → Street Opening Permits.

The Street Opening permit encompasses the requirements for a Trench Permit and no separate permit or fee is required if the excavation is wholly within the right-of-way. If utility excavations expand beyond the right-of-way a separate Trench Permit shall be required.

No work shall commence until the permit has been approved by DPW.

Emergency work may be initiated without a permit under the following emergency circumstances only:

1. Gas Grade 1 leaks per 220 CMR 114.00;
2. Water Main breaks;
3. Collapsing manholes or sinkholes that pose an immediate hazard.

In the case emergency work is initiated without a permit, a permit application shall be filed within 3 business days. Trench restoration requirements still apply to emergency work.

Scope of Permits: One permit includes one continuous trench on one street. A trench that turns or continues to a different street requires a separate permit. For utility pole replacements, one permit covers multiple poles on one street. Excavation permit is not required for single utility pole replacements or replacement of poles within grass/dirt shoulder areas, but notification of work and restoration of sidewalks is still necessary per DPW Engineering.

Permit Fee: An application fee of \$250 and an inspection fee of \$100 shall be paid to the city with each application. The inspection fee is waived for licensed public utilities. Both the application and inspection fee are waived for City of Fitchburg Departments and Divisions thereof. Application fees are not refundable.

Application Materials: A completed Street Opening application requires the inclusion of:

1. All necessary contact information for both the contractor performing the work and the owner of the property or utility;
2. The permittee shall be the property owner or utility company, the contractor shall be the entity actually doing the work and acting as agent for the permittee;
3. Digsafe number;
4. Contact information and copy of license/certificate for the ‘competent person’ as defined in 520 CMR 14.02;
5. Contact information and hoisting license number for person performing excavation;
6. The location of the proposed work:
 - a. The address for service connections, driveways and other work benefiting a single property;
 - b. A list of streets for utility upgrades spanning more than one address.
7. Plans showing the proposed work, saw cut and excavation limits, utility connections, and restoration plans.
8. Traffic Control Plans showing temporary construction in accordance with Chapter 6 of the MUTCD 2009 edition as updated. Typical work zone setups from [MUTCD Figure 6H](#) may be used or referenced in the application. Police details may be required.

Pavement Moratorium: Street Opening permits will not be issued for roadways that have been repaved within 5-years of the permit application. (See Appendix V) In cases of emergencies or situations where the Commissioner of Public Works allows excavations in a moratorium street, the contractor shall be responsible for performing a permanent “T-Section” trench restoration as outlined below AND mill and repave the top wearing course to a depth of 1.5” minimum for a complete section of roadway (curb to curb width and for a distance of 25-feet from the limits of work in each direction or to the nearest intersecting roadway curbline). (Refer to DTE 9.16)

Contractor in Good Standing: Every contractor applying for a street opening permit is required to be in good standing with the DPW Engineering Division based on prior work performance. Permits will not be issued to contractors who have outstanding failed inspections, have outstanding uncompleted work, have a history of permit violations, or otherwise are in bad standing with the DPW Engineering Division.

Underground Conduit: Per [§89-12 Rights of City as to Poles](#); every underground conduit hereafter constructed shall include one duct not less than three inches (3”) in diameter reserved and maintained for use by City of Fitchburg. Any permit for the installation of conduit shall specifically show in the plans the conduit(s) reserved for City use.

Cash Security & Indemnity Agreement: Per §157-47 each contractor shall provide a \$5,000 cash surety bond to be held by the City Treasurer for a period of three years. Additionally the permittee shall provide a certificate of liability insurance of \$1,000,000 to indemnify the City from all loss, cost or expense that it may suffer in any way whatever by reason of such work or obstruction. Licensed public utilities, however, shall not be required to file a cash security but are held responsible for three years, unless otherwise required by the Department of Public Utilities.

Such permittee shall be held responsible for any damages that may result from such work or obstruction within three years after its termination. The permittee, upon issuance of permit, agrees to indemnify and save the City harmless against all claims for damage or injuries to persons or property and against all costs, suits, and losses arising from defects in the public way due to such work.

Winter Moratorium: Street Opening permits will not be issued between November 15th through April 15th, unless otherwise authorized by the Commissioner of Public Works. In cases of emergencies (Grade I/II gas leaks, water line breaks, etc...) or as otherwise approved, excavations during winter moratorium shall not allow steel plates to be placed on the roadway and all excavations must be filled to gravel flush or temporary restoration conditions at the end of every day. Upon notification from the Commissioner of Public Works or Streets Superintendent, all equipment and materials must be removed from the right-of-way at least 8 hours prior to a winter storm event. The contractor is responsible for snow

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removal in and around the workzone. Temporary Trench Restorations shall be completed with high-performance cold patch if asphalt plants are closed for the season and with HMA if plants are still open to a depth of at least 3-inches. Permanent restorations shall be completed before March 15th.

Dig Safe: It is the responsibility of the contractor to request Dig Safe mark-outs and make sure they are completed prior to commencing excavation work. It is the responsibility of the contractor to pay for any fees or costs associated with location of underground utilities.

Section II – Excavation

Inspections: It is the responsibility of the contractor to contact DPW Engineering at 978-8291917 for inspections a day prior to work on critical components and stages of construction including:

1. Saw cutting and excavating pavement;
2. Utility connections; 3. Backfilling and compacting; 4. Paving.

Trees: No trees shall be damaged or removed as part of the Street Opening permit, including roots or limbs. Any request to remove trees or parts thereof need to be addressed to the Tree Warden through the appropriate procedure. (Refer to DTE 6.9)

Bounds: All bounds located within the excavation limits must be protected. In case the bound needs to be disturbed, three tie-in points will be taken prior to removal in the presence of DPW Engineering staff. Bound shall be replaced after excavation at the sole cost to contractor. In cases where three tie-in points were not adequately obtained, a PLS shall be hired at the contractors sole cost to locate and certify the location of the bound. (Refer to DTE 6.10)

Saw Cut: The pavement surface shall be cut in straight and parallel lines using a jack hammer blade, saw or other accepted method to minimize damage to the pavement surface. Cut lines shall be reasonably straight and parallel. Cuts shall extend the full depth of the pavement structure and be completed prior to excavating the pavement. No excavation of pavement will be allowed without prior cutting. (Refer to DTE 7.1)

Where the pavement remaining between an excavation and the edge of the roadway pavement or curb line is two-feet or less, the remaining area shall be removed and replaced in conjunction with the permanent pavement repair. (Refer to DTE 9.9)

Trench Safety: It is the responsibility of the permittee and/or contractor to assure OSHA trench safety and work safety standards are followed. City of Fitchburg DPW inspectors are not responsible for enforcing safety standards.

No excavation shall be left open overnight. Excavations must be secured either by backfilling and compacting to level grade flush or through the use of plates. These conditions must be temporary only not to exceed three days. In cases where large multi-day excavations need to remain open overnight, methods to protect the excavation must be approved by the Commissioner of Public Works.

Steel Plates: Steel plates shall be of sufficient thickness to resist bending under traffic loads. Steel plates shall be secured using spikes and asphalt 1:1 around the edges. Appropriate warning signs shall be used to warn motorists of the plates on the roadway. Steel plates may not be used during winter moratorium periods. (Refer to DTE 7.2)

Section III – Backfill and Compaction

Bedding and Cover: Installation of piping, structures, valves and associated appurtenances is the responsibility of the permittee and contractor. DPW Engineering will not advise or inspect utility installations, unless they are water or sewer connections. The permittee and/or contractor are responsible for providing the adequate bedding and cover for their respective utilities. Bedding and cover for the utility may be sand, gravel or control density fill (flow-fill) as appropriate and as specified by the respective utility. The bedding and cover material shall not extend further from the bottom of the excavation than 12-inches + diameter of pipe.

Control Density Fill (CDF or flow-fill) shall be utilized for those areas of the excavation where compaction cannot be readily accomplished with normal compaction methods such as bore holes or utility clusters. (Refer to DTE 8.4)

Backfill and Compaction: Excavations shall be backfilled from the top of the cover material to 12-inches below the bottom of the existing pavement structure. (see Appendix IA) The backfill material shall be specified and approved by DPW Engineering. If the in-situ excavated material is suitable, it may be used as backfill as long as debris and unsuitable elements are removed, including: (Refer to DTE 8.7)

- all stones larger than 3” to 6” (i.e. half the thickness of lifts)
- frozen earth
- organic materials including loam, muck, roots, etc..
- excavated pavement
- garbage
- pieces of broken pipe, structures, cement, pipes, etc.. □ other debris.

If the excavated material is deemed unsuitable by DPW Engineering, processed gravel for sub-base as specified in MassDOT specification M1.03.11 or acceptable substitute shall be used. Unsuitable materials include organics, muck,

silts and clays. (Refer to DTE 8.7) Unsuitable materials excavated shall be disposed of by the permittee/contractor at their sole expense. (Refer to DTE 8.8.3)

Prior to compaction, backfill must be tested to assure it has adequate moisture levels using the ‘soil ball’ test (from DTE 8.10.2):

- a. Take handful of material from inside the pile (i.e. dig into the pile) not from the surface;
- b. Squeeze the sample firmly making a closed fist;
- c. Open the hand and observe condition of ball;
- d. If soil ball is loose and crumbling, fill is too dry for compaction;
- e. If soil ball drips water, fill is too wet for compaction;
- f. If soil ball holds together firmly or breaks into large chunks, soil has suitable moisture content.
- g. Soil should be dried out or wetted to achieve correct moisture content, mixed and tested again.

Backfill shall be placed in lifts between 6 and 12 inches and shall be compacted using vibrating plate compactor, roller or other machine or device to a density of no less than 95% of maximum density. A minimum of four (4) passes with the compactor per lift shall be done. Compaction may not be done through pushing down backfill with excavator bucket or driving over fill with rubber tired or tracked equipment. (Refer to DTE 8.12)

Base: A 12-inch base shall be placed between the top of the backfill and the bottom of the existing pavement layer. (See Appendix I-A) The base material shall be dense graded crushed stone per MassDOT specification M2.01.7. The material shall be compacted to a density of no less than 95% maximum density. (Refer to DTE 8.12.9)

Section IV – Pavement Restoration

Restoration: The contractor is responsible, at their sole cost, to restore all elements of the right-of-way to a condition satisfactory to the Commissioner of Public Works as determined and governed by this policy. This includes restoration of sidewalks, curbing, berms, pavement, striping, drainage, signage and other infrastructure.

Surplus Materials: Contractors are prohibited from removing and disposing of cobblestones or castings excavated from the City streets unless permitted to do so by the Commissioner of Public Works. Intact cobblestones and surplus castings shall be delivered to DPW facility or pit as directed at contractor’s sole expense.

Temporary pavement restoration shall be completed with high-performance cold patch if asphalt plants are closed for the season and with HMA if plants are still open to a depth of at least 3-inches. Temporary pavement restorations must be replaced with a permanent restoration as specified below within three days. During winter moratorium months, permanent restoration shall be completed by May 15th. (Refer to DTE 9.14)

Permanent pavement restoration is required for all excavations using either a “T-Section” or “Mill & Overlay” method as determined by DPW Engineering. Additional restoration is required for moratorium streets. (Refer to Appendix IA and IB)

Where the pavement remaining between the restoration method and the edge of the roadway pavement or curb line is two-feet or less, the remaining area shall be removed and replaced in conjunction with the permanent pavement repair. Total pavement depth shall be 5.5” or match existing depth, whichever is greater. Tack coat shall be used in between cold layers and edges. Base and binder layers may be applied by hand method but will require mechanical compaction. The final 1.5” wearing course shall be applied using a paving machine or spreader box and compacted using mechanized rollers to achieve 95% compaction. Wearing course shall be smooth and have no irregularity greater than 0.25-inches over 10-feet in any direction. No feathering of asphalt to match existing pavement is allowed. (Refer to DTE 9.3 through 9.9)

T-Section method: After following the procedures in Section III above for backfill & compaction of the base, the existing adjoining pavement shall be saw cut or milled at least 1-foot back from trench edges in straight and parallel lines. The cut or mill shall extend the full depth of the existing pavement structure and the pavement will be removed. Binder courses shall be installed and compacted in lifts not to exceed 2-inches in the T-Section (at least 1-foot on either side of trench limits).

Mill & Overlay method: After following the procedures in Section III above for backfill & compaction of the base, all pavement edges damaged by overexcavation shall be saw cut and the pavement removed. Binder courses shall be installed and compacted in lifts not to exceed 2-inches.

The surface of the adjoining pavement shall be uniformly milled and removed to a minimum depth of 1.5-inches for subsequent pavement replacement. The milling procedure shall provide a 1-foot minimum cutback into existing undisturbed pavement and shall encompass all disturbed pavement areas. The milled area shall be swept and cleaned of dirt, dust and debris prior to paving and coated with tacking material.

In situations where the City plans on repaving or rehabilitating the roadways within the next year, the city and contractor may mutually agree to waive the wearing course mill & overlay requirement in exchange for a paving contribution to the city. Such an agreement shall be approved by the Commissioner of Public Works and documented using the form found in Appendix VI. The formula for calculating the payment-in-lieu of mill & overlay shall be determined by multiplying the length (L) by the width of the restoration area (W) by the depth of mill & overlay ($D = 1.5 \text{ inches} = 0.125 \text{ ft}$). In areas where the limits of restoration are within 2-feet of the edge of pavement or curb line, the equation

City of Fitchburg DPW – Street Excavation & Restoration Policy
will be adjusted to incorporate a full restoration to the edge of pavement or curbline. The total volume of pavement shall be converted to tonnage using a factor of 145 lbs/ft³. HMA prices per ton and milling per square feet or yard will be determined by DPW.

Restoration inspection and repair is required for all excavations for a period of 3 years.

Restorations should be inspected between 30 and 60 days after completion for cracking and settlement. Restorations should be inspected yearly. Surface or joint cracking greater than 0.25 inches shall be filled with crack sealant. Restorations that settle or heave greater than 0.25 inches from existing street surface shall be milled and repaved. Should any portion of an excavation restoration require repaving or resurfacing within three (3) years, the Commissioner of Public Works shall notify in writing by mail, postage prepaid, or E-Mail, the party to whom the permit for such excavation or disturbance was granted, to forthwith make such repairs as he or she may deem necessary. If such party shall fail to make such repairs within three (3) working days after the sending of such notice to his or her last known address, the Commissioner may then make such necessary repairs, and the expense thereof shall be paid by such party via \$5,000 cash surety. (Refer to §157-48 and to DTE 9.18)

Section V – Sidewalk Restoration

Restoration: The contractor is responsible, at their sole cost, to restore all elements of the right-of-way to a condition satisfactory to the Commissioner of Public Works as determined and governed by this policy. This includes restoration of sidewalks, curbing, berms, pavement, striping, drainage, signage and other infrastructure. Sidewalk restorations shall meet all City of Fitchburg sidewalk construction specifications.

ADA Compliance: All sidewalk restoration shall be performed in accordance with 521 CMR and Rules and Regulations of the AAB and ADA, regardless of whether existing conditions met these standards. (Refer to DTE 10.1)

Wheel chair ramps shall include detectable warning panels (DWP). DWPs shall be cast iron per City specifications. If the existing ADA ramp included a DWP, it shall be restored. If no ADA ramp existed, DPW will provide a cast iron DWP to contractor for installation free of charge.

Surplus Materials: Contractors are prohibited from disposing of granite curbing from city sidewalks unless permitted to do so by the Commissioner of Public Works. In case of new curb cuts, the existing granite curbing shall be sunk into the driveway lip or used as driveway transitions as necessary. Extra pieces of curbing shall be delivered by the contractor to a DPW facility or pit as directed at contractors sole cost.

Temporary sidewalk restoration includes replacing concrete and granite sidewalks with 2” HMA and asphalt curbing. Temporary sidewalk restorations shall be reconstructed to permanent restoration within 1 week.

In cases where the City is planning on repaving the roadway or rehabilitating sidewalks, the contractor may make a contribution in lieu of performing permanent restoration. The contribution amount shall be for the full cost of concrete and granite sidewalks.

Permanent sidewalk restoration includes full width in-kind replacement of existing sidewalks and curbing. For concrete sidewalks, full panel replacement shall be made to the nearest joint line. For HMA sidewalks, full width replacement shall be made to a minimum of 1-foot beyond excavation. (Refer to DTE 10.2)

In areas of HMA sidewalks, clean saw cuts will be made and a rubber based adhesive shall be applied between the joints. HMA curb and berm shall be replaced in kind.

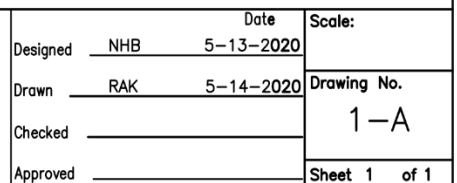
For utility pole installations and removals, the full sidewalk width of each excavation shall be restored. Attention shall be made to install sidewalk material around pole to prevent vegetative growth.

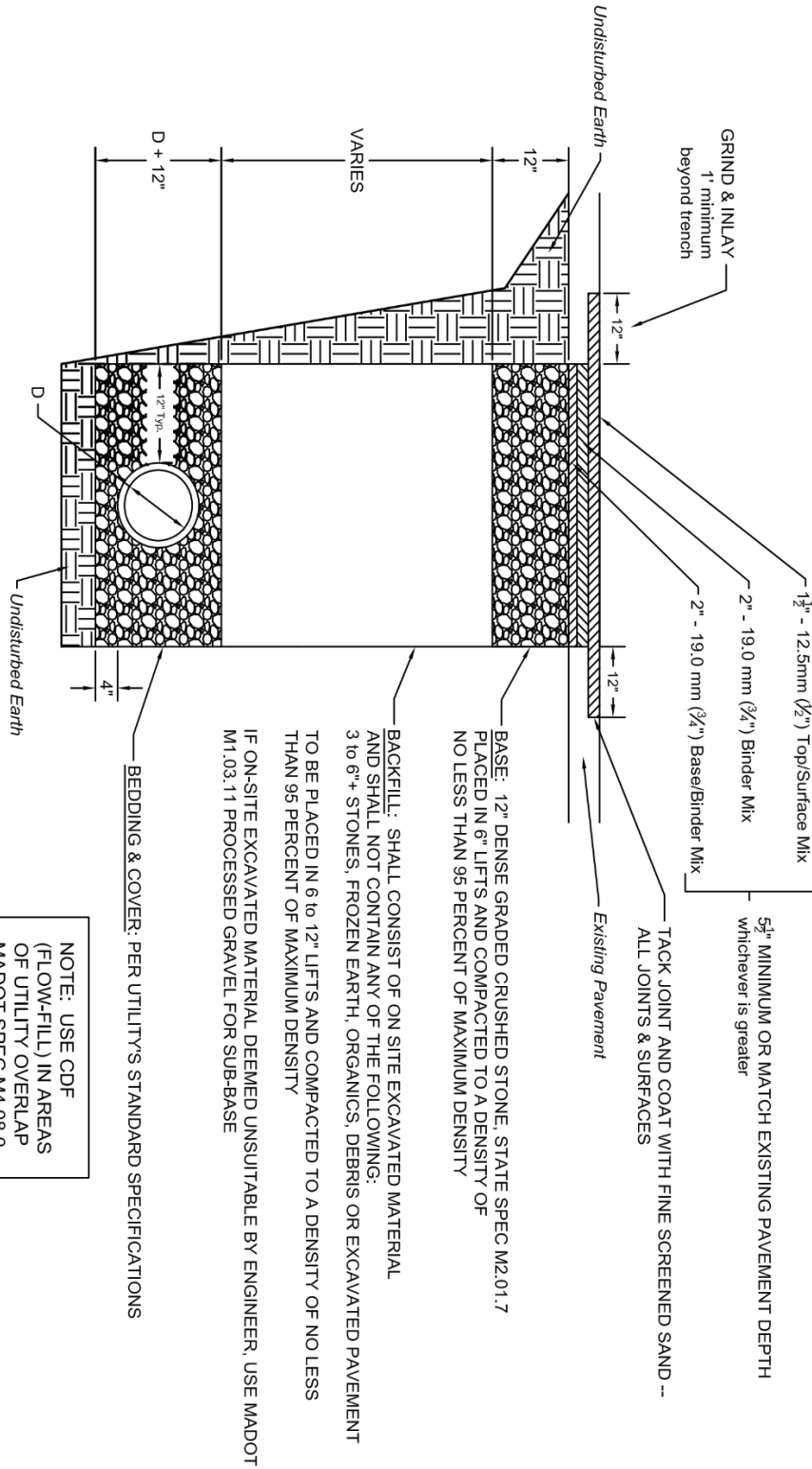
Granite curbing will be reset using a concrete crib that envelopes both sides and the bottom of the curbing. In cases the granite curb is damaged, full pieces shall be replaced. (Refer to Vertical Granite Curb detail)

Brick banding on sidewalks shall be replaced in kind or with stamped/colored concrete as directed.

The subbase for the sidewalk restoration shall consist of compacted gravel base to a depth of 6 to 8 inches. (Refer to DTE 10.3 and Concrete Sidewalk detail)

Concrete shall be 4000 PSI, ¾” aggregate, placed at 4” thickness on sidewalks and at 6” thickness at driveways and ADA ramps. (Refer to DTE 10.6 and Concrete Sidewalk detail)





NOTE: USE CDF
(FLOW-FILL) IN AREAS
OF UTILITY OVERLAP
MADOT SPEC M4.08.0

* REFER TO CITY OF FITCHBURG TRENCH RESTORATION POLICY FOR SPECIFICATIONS & REQUIREMENTS



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

PERMANENT TRENCH RESTORATION DETAIL "MILL & OVERLAY" APPENDIX I B

Date	5-13-2020
Designed	NHB
Drawn	RAK
Checked	
Approved	

Scale:
Drawing No. 1-B
Sheet 1 of 1

City of Fitchburg DPW – Street Excavation & Restoration Policy
Appendix II A City Code-Excavations

Chapter 157. Streets and Sidewalks

§ 157-46. Excavation permit required; restoration.

[Amended 7-27-1989 by Ord. No. 307-89; 7-18-2000 by Ord. No. 265-00; 12-1-2015 by Ord. No. 220-2015]

No person or City department shall dig up or make any excavation in any part of any street or sidewalk without a written permit from the Commissioner of Public Works. Work under such permit must be done in accordance with the requirements of the Commissioner, and upon completion thereof, the permittee shall restore the surface to a condition satisfactory to the Commissioner or his or her designee as determined and governed by the current City of Fitchburg Department of Public Works Trench Restoration Policy. An application fee of \$250 and an inspection fee of \$100 shall be paid to the City with each application. Said fee shall include all related inspections. Licensed public utilities, however, shall not be required to pay an inspection fee.

§ 157-47. Cash security and indemnity agreements.

[Amended 7-27-1989 by Ord. No. 307-89; 6-3-2014 by Ord. No. 100-2014; 12-1-2015 by Ord. No. 220-2015]

The Commissioner of Public Works may require any person to whom he or she may grant a permit to do work in any street or to obstruct any street in any manner to provide a cash security in the sum of \$5,000 cash to be held by the City Treasurer for three years in order to comply strictly with the terms of the permit. Three years after the completion of the last permit work, a permittee may request the Department of Public Works release the security. If all permit obligations have been met, the security will be returned in its entirety. The permittee shall provide a certificate of liability insurance of \$1,000,000 to indemnify the City from all loss, cost or expense that it may suffer in any way whatever by reason of such work or obstruction. Such permittee shall be held responsible for any damages that may result from such work or obstruction within three years after its termination. The permittee, upon issuance of permit, agrees to indemnify and save the City harmless against all claims for damage or injuries to persons or property and against all costs, suits, and losses arising from defects in the public way due to such work. Licensed public utilities, however, shall not be required to file a cash security but are held responsible for three years, unless otherwise required by the Department of Public Utilities.

§ 157-48. Repairs after excavations.

[Amended 6-3-2014 by Ord. No. 100-2014; 12-1-2015 by Ord. No. 220-2015]

Should any portion of a street require repaving or resurfacing within three years after it has been disturbed by excavation, the Commissioner of Public Works shall notify, in writing, by mail, postage prepaid, and/or e-mail, the party to whom the permit for such excavation or disturbance was granted, to forthwith make such repairs as he or she may deem necessary. If such party shall fail to make such repairs within three working days after the sending of such notice to his or her last known address, the Commissioner may then make such necessary repairs, and the expense thereof shall be deducted, upon the request of the DPW Commissioner, from the cash security of \$5,000 deposited by the permittee with the City Treasurer. All sums received by the City Treasurer for work done or materials furnished under the authority of this section shall be placed to the credit of the Department of Public Works and used as a part of its appropriation.

Chapter 89. Electricity and Wires

§ 89-11. Application for wire location; required plans.

Each application for a location under MGL c. 166, § 22, shall be accompanied by a plan, drawn to a scale which shall be designated upon the plan, and shall indicate upon the plan or in the application the streets upon which the pertinent lines are to be constructed, the location of the several posts, the kind of posts to be initially installed, the height at which the wires are to be placed, the voltage of wires if in excess of 6,000 volts and the dimensions and location of the underground conduit if such lines or any part thereof are to be laid underground. Each such application and plan shall be filed in triplicate, and the City Clerk shall transmit the duplicate to the Superintendent of Wires and the triplicate to the Superintendent of Streets. The location and construction of the line shall conform in all respects to the application and plan except for such changes therein or additions thereto as may be made by the Council in granting the location.

§ 89-12. Rights of City as to poles.

The City shall have the right, free of charge, to place its fire alarm telegraph, telephone and police and traffic signal wires upon any poles or within any conduits in each case when it is practicable and safe so to do. In every underground conduit hereafter constructed, one duct (being agreed as sufficient space) not less than three inches in diameter shall be reserved and maintained for the above enumerated systems of the City, and the City shall have the right of access thereto at all reasonable times for purposes of repair, alteration, installation or maintenance thereof.

Appendix III DTE 98-22

Standards To Be Employed by Public Utility Operators When Restoring any of the Streets,
Lanes and Highways in Municipalities

Section

- 1.0 Purpose and Scope
- 2.0 Definitions
- 3.0 Permit Requirements
- 4.0 Work Standards
- 5.0 Safety
- 6.0 Protection of Adjoining Facilities
- 7.0 Excavations
- 8.0 Backfill and Compaction
- 9.0 Pavement Restoration
- 10.0 Sidewalks and Driveways
- 11.0 Compliance with these Standards

1.0 Purpose and Scope

- 1.1 The purpose of these standards is to ensure that a Utility, after excavating in any municipal street, lane and highway (“public ways”), restores such street, lane and highway to the same condition in which they were found before the excavation.
- 1.2 Nothing in these standards may be construed to restrict the Constitutional or statutory authority of cities or towns (“Municipalities”) with respect to public ways. Nothing in these standards is intended to prevent a utility and a municipality from mutually agreeing to exceptions to these standards.
- 1.3 Nothing in these standards is intended to be inconsistent with any ordinance or by-law and the constitution and laws of the Commonwealth.
- 1.4 Nothing in these standards is intended to create a contractor relationship between a Municipality and the Utilities regulated by the DTE.
- 1.5 Nothing in these standards is intended to be inconsistent with the Department’s regulations concerning the Design, Construction, Operation, and Maintenance of Intrastate Pipelines Operating in Excess of 200 PSIG, 220 C.M.R. §§ 109.00 et seq. Inasmuch as the cover and backfill requirements in these standards are more stringent than those included in 220 C.M.R. § 109.09, these standards shall apply.
See 220 C.M.R. § 109.05(2).
- 1.6 The Utility is responsible for insuring compliance, for itself and its contractors, with these standards. However, Utility work may be inspected by the Municipality to assure that proper procedures are being followed. In the event a Utility fails to comply with these standards a Utility shall, at its own expense, correct such failures.

- 1.7 A Utility's performance in following these standards shall be considered by the Department when a Utility seeks recovery of costs related to these standards in a rate proceeding.

2.0 Definitions

AASHTO means The American Association of State Highway and Transportation Officials.

Clay means very finely textured soil which, when moist, forms a cast which can be handled freely without crumbling/breaking; that exhibits plasticity; and when dried, breaks into very hard lumps (i.e., high dry strength) and is difficult to pulverize into a soft, flour-like powder.

Cold Patch means a bituminous concrete made with slow curing asphalts and used primarily as a temporary patching material when hot mix plants are closed.

Compaction means compressing of suitable material and gravel that has been used to backfill an excavation by means of mechanical tamping to within 95% of maximum dry density as determined by the modified Proctor test in accordance with AASHTO T180.

Controlled Density Fill ("CDF") , meeting MHD Specification M4.08.0 Type 2E (flowable, excavatable), also called flowable fill means a mixture of portland cement, fly ash, sand and water. High air (25% plus) may be used instead of fly ash with an adjustment in sand content. CDF is hand-tool excavatable.

Department means the Department of Telecommunications and Energy.

Emergency Repair Work means street opening work which must be commenced immediately to correct a hazardous condition whose continuation would unreasonably risk injury, loss of life or property damage.

Gravel means coarse to very coarse-grained soil ranging from approximately 0.1 inch to 3.0 inches. Gravel exhibits no plasticity.

Infrared Process means a recycling procedure whereby an infrared heater plasticizes the surface of an asphalt pavement, preparatory to the introduction of additional compatible paving materials uniformly re-worked and compacted to achieve a density and profile consistent and thoroughly integrated with the adjacent pavement.

MHD means the Massachusetts Highway Department.

Mass. Highway Standards means the "Commonwealth of Massachusetts Department of Public Works Standard Specifications for Highways and Bridges, 1988 edition."

Municipality means any Massachusetts city or town having subordinate and local powers of legislation.

Newly Paved Road means a road whose re-paving is less than five years old.

Organic Soil means soil high in organic content, usually dark (brown or black) in color. When considerable fibrous material is the principal constituent, it is generally classified as "peat." Plant remains or a woody structure may be recognized and the soil usually has a distinct odor. Organic soil may exhibit little (or a trace of) plasticity.

Permanent Patch means a final repair of street opening work to be performed in accordance with these standards and intended to permanently return the opened portion of the roadway to as good a condition as it was prior to the performance of the street opening work.

Permit means a permit granted by a Municipality to a Utility for permission to do street opening work in a public way.

Plasticity means that property of soil that allows it to be deformed or molded without crumbling (e.g., like dough or soft rubber). This property reflects the capacity of soil to absorb moisture.

Poorly Graded Soil means soil that contains a large percentage of its constituent particles within a relatively narrow range; also referred to as "uniform" soil.

Sand means coarse grained soil in which the individual grains can be visually detected. When moist it forms a cast which will crumble when lightly touched; when dry, it will not form a cast and will fall apart when confining pressure is released. Sand exhibits no plasticity.

Silt means finely-textured soil. When moist, it forms a cast which can be freely handled; when wet, it readily puddles; when dry, it may be cloddy and readily pulverizes into powder with a soft flour-like feel (i.e., low dry strength). Silt exhibits little or no plasticity.

Street Opening Work means any cutting, excavating, compacting, construction, repair or other disturbance in or under a public way together with restoration of the public way in accordance with these standards, municipal ordinances and any other applicable law following such disturbance.

Temporary Patch means the application of either cold patch or Type I bituminous concrete compacted to achieve a density equal to that of the surrounding pavement.

Utility means any corporation, city, town or other governmental subdivision, partnership or other organization or any individual engaged within the Commonwealth in any business which is, or the persons engaged in which are, in any respect made subject to the supervision or regulation by the Department of Telecommunications and Energy. For the purposes of these Standards, a Utility shall also mean any person or entity engaged by or on behalf of a Utility to perform Street Opening Work.

Well Graded Soil means soil having its constituent particles within a wide range, also referred to as "non-uniform" soil.

3.0 Permit Requirements

Each Municipality may incorporate in its permit procedures the portions of these standards that shall apply to Utility excavations within its jurisdiction. A permit may be issued with the stipulation that it may be modified or revoked with just cause at any time at the discretion of the Municipality without rendering the Municipality liable in any way. It is recognized that each Municipality shall have the authority to inspect work in progress and the Utility shall correct any deficiencies identified during said inspections. The following are the requirements that a Municipality may require of a Utility when granting Permits.

- 3.1 The work shall be performed in accordance with plans on file with the Municipality.
- 3.2 The Utility shall notify the Municipality two (2) days prior to the start of work. No work shall be authorized or proceed (except Emergency Repair Work) without said notification.
- 3.3 The Utility shall notify Dig Safe, in accordance with G.L. c. 82 § 40, at least 72 hours prior to the start of work for the purpose of identifying the location of underground utilities.
- 3.4 The Utility shall be responsible to contact the Municipality regarding the field location of any underground traffic control devices on this project.
- 3.5 A copy of the Permit must be on the job site at all times for inspection (except for emergency repair work). Failure to have the permit available could result in suspension of the rights granted by the Permit.
- 3.6 Work, day, and time constraints shall be conditions of the Permit.
- 3.7 If it becomes necessary to open the roadway surface in a larger area than specified in the

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Permit, the Utility shall apply for an additional Permit to cover the project.

- 3.8 The Utility shall notify the Municipality within 14 days after completion of the physical work.

4.0 Work Standards

- 4.1 All work shall be in compliance with the Mass. Highway Standards as it pertains to utility street excavations and repairs unless modified by these standards.
- 4.2 The Utility shall be responsible for any settlement that may occur as a result of the work done in accordance with the Permit.
- 4.3 The Utility shall be responsible for the ponding of water that may develop within the roadway which was caused by this work.
- 4.4 In the event a street opening failure presents a nuisance or a public safety problem, the Utility shall respond to all trench restoration requests by the Municipality within 48 hours. Non-response within the specified time will result in the required restoration work being done by the Municipality, with all expenses to be paid by the Utility. The Utility shall reimburse the Municipality for the invoiced amount within thirty (30) days.
- 4.5 Failure to respond to trench restoration requests may result in denial of future Permit requests.

5.0 Safety

- 5.1 Provisions shall be made for the safety and protection of pedestrian traffic during the construction period.
- 5.2 The Utility shall be responsible to furnish and erect all required signs and traffic safety devices.
- 5.3 Cones and non-reflecting warning devices shall not be left in operating position on the highway when the daytime operations have ceased. If it becomes necessary for the Municipality to remove any construction warning devices or the appurtenances from the project due to negligence by the Utility, all cost for this work will be charged to the Utility.
- 5.4 Flashing arrow boards will be used as directed when operations occupy the roadway and shall be available for use at all times.

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- 5.5 All signs and devices shall conform to the 1988 edition, Revision 3, or subsequent current edition, of the Manual on Uniform Traffic Control Devices (MUTCD).
- 5.6 Efforts shall be made to maintain normal traffic flow, but interruptions or obstructions to traffic shall be defined by conditions of the Permit.
- 5.7 When, in the opinion of the Municipality, the work constitutes a hazard to traffic in any area the Utility may be required to suspend operations during certain hours and to remove any equipment from the roadway.
- 5.8 When a snow or ice condition exists during the progress of this work, the Utility shall keep the area affected by the work safe for travel. The Municipality may restrict work during snow, sleet, or ice storms and subsequent snow removal operations.
- 5.9 The highway surface shall be kept clean of debris at all times and shall be thoroughly cleaned at the completion of the work.
- 5.10 At the completion of the work done in accordance with the Permit, all disturbed areas shall be restored to a condition equal in kind to that which existed prior to the work.
- 5.11 Blasting, if necessary, shall be done in accordance with state law and local ordinance.
- 5.12 The Utility shall supply copies of all log data and analyses collected from groundwater monitoring wells as required by state law and local ordinance.
- 5.13 Massachusetts Highway Department Standards for Line Clearance will conform to the National Electric Safety Code Standard Clearance for Highway Crossings.

6.0 Protection of Adjoining Facilities

- 6.1 If directed by the Municipality, photographs shall be taken prior to the start of work to insure restoration of designated areas to their former conditions within the limits of the work areas. Copies of the photographs shall be delivered to a place designated by the Municipality.
- 6.2 Care must be taken to not interfere with underground structures that exist in the area.
- 6.3 Care shall be exercised not to disturb any existing traffic duct systems. Any such system, if disturbed, shall be restored immediately to its original condition.
- 6.4 The Utility shall be responsible to replace all pavement markings in kind which have been disturbed as a result of work done in accordance with the permit. These pavement

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markings shall be restored within ten (10) days after this work is performed or as deemed necessary by the Municipality.

6.5 Existing guardrail that may be removed or damaged shall be reset or replaced to Mass. Highway Standards.

6.6 The Utility will be responsible for any damage caused by its operation to curbing, structures, roadway, etc.

6.7 No trees shall be cut or removed under this Permit.

6.8 Hand digging shall be required around roots of trees.

6.9 Tree Removal

6.9.1 The Utility shall obtain written permission from the tree warden of the Municipality if it becomes necessary to remove any tree. Replacement trees must be obtained from an established nursery in accordance with "USA Standard for Nursery Stock". The trees will be replaced in size and specie as directed by said tree warden.

6.9.2 The tree stump shall be removed a minimum of six inches below the surrounding surface and all debris shall be disposed of outside the right-of-way line.

6.9.3 The tree shall be removed under the supervision of a qualified tree surgeon.

6.10 Every effort shall be made to protect bound markers. However, if it becomes necessary to remove and reset any bound marker, the Utility shall hire a registered professional land surveyor to perform this work. It shall be the responsibility of this land surveyor to submit to the Municipality a statement in writing and a plan containing his stamp and signature showing that said work has been performed.

6.13 These standards do not cover the installation of any utility poles.

7.0 Excavations

7.1 The surface of a roadway to be excavated for utility work shall be cut in reasonably straight and parallel lines using a jack hammer, saw or other accepted method to insure the least amount of damage to the roadway surface. The pavement, including reinforcing steel on concrete roadways, shall be cut the full depth of surfacing. The excavation shall only be between these lines. The cutting operation shall not be done with a backhoe, gradall or any type of ripping equipment.

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- 7.2 Steel plates used by a Utility to protect an excavation shall be of sufficient thickness to resist bending, vibration, etc., under traffic loads and shall be anchored securely to prevent movement. If these conditions are not met, the Utility will be required to backfill and pave the excavations daily. No open trench shall be left unattended overnight.
- 7.3 Steel sheeting, shoring or bracing shall be driven or placed for all depths over five (5) feet. At the discretion of the Municipality, said sheeting shall be left in place and cut off two (2) feet below the surface.
- 7.4 When a Utility installs a service lateral to a customer an opening may be made over the common supply line to make the proper connection, but the service should be bored or driven the remainder of the way wherever possible.
- 7.5 Water jetting of the trench area is prohibited.

8.0 Backfill And Compaction

In restoring municipal streets, lanes and highways, Utilities may utilize approved backfill material compacted to achieve soil density values of 95% modified Proctor density (as described in AASHTO T180), which may include, as the conditions warrant, the use of Controlled Density Fill ("CDF")

- 8.1 If CDF is the selected option of the Utility, when backfilling excavations made for the installation or maintenance of a natural gas line, the Utility may backfill with sand and compact to a level six inches over the gas line before adding CDF to the trench.
- 8.2 If CDF is the selected option of the Utility, excluding the exception granted in 8.1, CDF shall flow under and around the pipe, conduit, or bedding material providing uniform support without leaving voids. CDF shall be discharged from the mixer by a reasonable means into the trench area to be filled. Filling operations shall proceed simultaneously on both sides of the pipe or conduit so that the two fills are kept at approximately the same elevation at all times. An external load shall be applied to the pipe or conduit, sufficient to hold it in place before filling.
- 8.3 The trench in all cases shall be filled to the bottom of the existing pavement to provide room for the pavement restoration.
- 8.4 CDF shall be utilized for those excavations where compaction cannot be readily accomplished with normal compaction methods (i.e. vacuum holes, utility clusters).
- 8.5 The following subsections provide general guidelines and criteria to determine whether a soil is suitable as backfill for Utility excavations in roadways. They prescribe proper

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procedures for backfilling and compaction to achieve soil density values of 95% modified Proctor density. The ultimate objective is to obtain a finished road surface repair which will undergo settlements only within acceptable performance limits as defined within these standards for the functional life of the existing road. The guidelines are based on good engineering practice and testing of both materials and equipment.

- 8.6 Compliance with these standards will insure satisfactory compaction. These standards are to be used in the field when there is an absence of sieve analysis of materials, Proctor values of the soils and the corresponding inability to utilize a nuclear density gauge or sand cone field density test. The Utility shall not be required to use other accepted testing methods. However, the Municipality reserves the right, at its own expense, to utilize other accepted testing methods to verify compaction. In the event of test failure the Utility shall be responsible for re-compacting the excavation to meet the required standards.

8.7 Suitability Of Backfill Material

- 8.7.1 This section addresses suitability of materials to obtain an adequate level of compaction.

- 8.7.2 Suitable backfill material is free of stones larger than half the size of the compacted lift as provided for in Mass. Highway Standards, construction debris, trash, frozen soil and other foreign material. It consists of the following:

- a. Well graded gravel and sand;
- b. Poorly graded gravel and sand;
- c. Gravel-sand mixtures with a small amount of silt;
- d. Gravel-sand mixtures with a small amount of silt and trace amounts of clay.

- 8.7.3 Unsuitable backfill materials consist of the following:

- a. Inorganic silts and clays;
- b. Organic silts;
- c. Organic soils including peat, humus, topsoil, swamp soils, mulch, and soils containing leaves, grass, branches, and other fibrous vegetable matter.

8.8 Evaluation Of Excavated Soil

- 8.8.1 The soil excavated from a trench shall be evaluated by trained personnel to determine whether or not it is suitable as a backfill in accordance with Subsection 8.7.

- 8.8.2 An excavated soil that has been evaluated as suitable for backfill shall be reused provided its moisture content has been determined to be "suitable" in accordance with Subsection 8.9.

- 8.8.3 An excavated soil that has been evaluated as unsuitable for backfill shall be removed from

the site and disposed of properly.

- 8.8.4 New material, which meets the requirements of Subsection 8.7, shall be brought in to replace excavated soil found to be unsuitable.

8.9 Proper Moisture Content for Backfill Material

Proper moisture content (i.e., ratio of moisture to mineral solid by weight in a soil) in a backfill is essential for effective compaction. Soils with too much moisture (wet) or too little moisture (dry) would not yield an adequate level of compaction. All material used as backfill shall be examined by testing a sample prior to backfilling. This requirement applies to excavated soil to be reused as backfill and to new replacement material.

8.10 Field Determination of Moisture Content

- 8.10.1 Trained personnel will conduct the following field test of moisture content, also referred to as a “soil ball” test.

8.10.2 The personnel conducting the soil ball test must do the following:

- a. first take a handful of the particular soil from beneath the surface of a stockpile (i.e., excavated from a trench or obtained from a borrow area) and then;
- b. squeeze the sample firmly making a closed fist;
- c. open the hand and observe the condition of the soil ball;
- d. if the soil ball is loose and crumbly, the soil is too dry for compaction;
- e. if the soil ball drips water, the soil is too wet for compaction;
- f. if the soil ball holds together firmly or breaks into large chunks, the soil has suitable moisture content for compaction.

8.11 Corrective Treatment When Moisture Content is Not Suitable:

- a. if the soil is too dry, small amounts of water may be added by sprinkling;
- b. if the soil is too wet, the soil may be dried out by spreading it out and exposing it to the atmosphere;
- c. after the remedial treatment, the soil shall be tested again (Subsection 8.10.2);
- d. if the corrective treatment is not effective, the soil shall be removed from the site and disposed of properly.

8.12 Backfill And Compaction Of Excavations

- 8.12.1 Backfill and compaction shall be performed in accordance with Subsections 8.12.2 through 8.12.6, or Subsections 8.12.7 and 8.12.8. All utility lines shall be properly bedded with materials and in depths as specified by the appropriate utility prior to backfilling to obtain compaction values of 95% modified Proctor density.

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- 8.12.2 Compaction equipment which may be used is specified in Table A. Compactors shall be operated in approximately the vertical position.
- 8.12.3 Care should be exercised when compacting near a buried facility to avoid damage to the facility.
- 8.12.4 The bottom of the excavation shall be level, free of stones and compacted in accordance with Subsection 8.12.5 prior to commencement of backfilling.
- 8.12.5 Compaction shall be performed by making a minimum of four (4) passes per lift with the compactor. The passes shall start around the perimeter of the excavation and move toward the center in an inward spiral.
- 8.12.6 Backfill material shall be placed in lifts with the loose thickness (i.e., prior to compaction) as specified in Table A.
- 8.12.7 The effectiveness of any compaction method used other than that specified in this Section, including Table A, shall be determined by testing to establish the precompacted or loose thickness of lifts, the number of passes with the compactor required to obtain the desired results, the type of compacting tool used and the soil type.
- 8.12.8 All maintenance work shall be compacted in 6" lifts. Construction work shall, based on the specific compaction equipment used, utilize Table A to determine appropriate lifts. Construction work shall be defined as the installation of new or replacement facilities.

TABLE A

Tool	Thickness of Lifts
Pneumatic Air Tamper	6"
Percussive Wacker Rammer	6" – 12"
Vibratory Compactor (7000lb)	6" – 12"
Pavement Breaker Tamping Foot	6"

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8.12.9 Well graded gravel that may exist immediately under the paved surface shall be replaced in like-compacted depth.

8.12.10 All leak detection holes (i.e., bar holes) shall be filled in lifts with an appropriate mineral filler and compacted to the bottom of the pavement.

8.13 Compaction Verification

8.13.1 Compaction verification shall be performed in accordance with the following to assure that 95% modified Proctor density has been achieved:

a. The compaction of each lift shall be verified using a Dynamic Cone Penetrometer (DCP), or equivalent as approved by the Municipality. For standard maintenance excavations, each lift shall be verified at one location. For longer excavations (e.g., trenches), a DCP test shall be made approximately every 25 feet for each lift.

b. A DCP test shall be considered acceptable if, after 15 drops, the pass/fail reference line on the DCP is above the soil surface.

c. An unacceptable DCP test shall require that corrective measures be taken until an acceptable DCP test is achieved. This may include making additional passes with the compactor or, in some cases, removing the backfill material and starting over.

8.14 Training

Field personnel performing backfill and compaction operations shall be trained in the implementation of this procedure. Personnel shall receive retraining every two years. The Utility shall certify with the submission of a Permit application that all personnel are properly trained.

9.0 Pavement Restoration

9.1 The Utility shall be responsible to replace all pavement disturbed by work under the Permit with homogeneous and in-kind pavement, unless otherwise stipulated, to the original strength and condition.

9.2 Single gradation (Type I, surface course) bituminous concrete patches may be used when the existing pavement depth is less than three inches, provided that the new patch is installed to a depth 1 inch greater than the surrounding pavement.

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- 9.3 Single gradation (Type I, binder course) bituminous concrete may be used where post grind and inlay method is a condition of the Permit. Minimum allowable depth of pavement shall be four inches when utilizing the grind and inlay method. When the grind and inlay method is performed, the surface of the pavement shall be uniformly ground and removed to a minimum depth of 1.5 inches for subsequent pavement replacement. The grinding procedure shall provide a cutback into existing undisturbed pavement and shall encompass all disturbed pavement areas of the excavation. Grinding shall be done in reasonably straight lines.
- 9.4 All non-emergency pavement excavations shall be repaired with same day permanent patches unless specifically exempted in the permit.
- 9.5 Same day patches installed in conformance with these standards will not require re-excavation and may utilize the infrared method or the grind and inlay method to correct subsequent settlements. However, the restoration of single patches up to five feet by seven feet in area shall be by the infrared method, unless another method is agreed to by the Municipality.
- 9.6 Immediately following the procedures outlined in the section for Backfill and Compaction, the adjacent pavement shall be cut back, full depth, to encompass all disturbed pavement areas and underlying cavities associated with the excavation. All cutbacks shall be done in reasonably straight and parallel lines.
- 9.7 All existing pavement surfaces shall be swept clean of dirt, dust, and debris prior to patching. The existing vertical pavement surfaces shall be tack coated with an appropriate asphalt tacking material prior to patching and subsequent to cleaning.
- 9.8 Pavement repair depths shall equal or exceed adjoining pavement depths. When existing pavement depths are greater than 2 inches, pavement repairs shall be made utilizing Type I, binder course in the underlying patch courses. The wearing surface shall be a minimum 1.5 inches of Type I, surface course. Pavement courses shall not exceed two inches. All pavement courses shall be thoroughly compacted prior to placement of subsequent courses.
- 9.9 When the pavement remaining between an excavation and the edge of the roadway is less than two feet, the remaining area shall be removed and replaced in conjunction with the permanent pavement repair.
- 9.10 All leak detection holes (i.e. bar holes) shall be filled to refusal with an appropriate asphalt filler to a depth equal to the surrounding pavement depth.
- 9.11 Temporary pavement repairs shall be permitted under the following conditions:

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- a. Emergency Repair Work completed outside normal Monday through Friday working hours.
 - b. Work performed between December 1 and March 30 when bituminous concrete is not available on a daily basis.
 - c. Excavations which shall be reopened within five (5) working days.
- 9.12 The Utility shall make every effort to limit excavations conducted under the aforementioned conditions.
- 9.13 All excavation, back fill, and compaction work associated with temporary patches shall be performed in accordance with these standards.
- 9.14 Temporary patches shall be made with high-performance cold patch or Type I, bituminous concrete to a minimum depth of 4 inches. Temporary patches made between December 1 and March 30 shall be removed and replaced with a permanent patch as outlined above within five (5) working days. Temporary patches made between April 1 and November 30 shall be removed and replaced with a permanent patch as outlined above within two (2) working days.
- 9.15 The Utility shall be responsible to maintain temporary patches in a safe condition for all types of travel until a permanent pavement repair has been made.
- 9.16 The Municipality shall have jurisdiction to determine the pavement repair method to be utilized on all pavements which have been installed for less than five years.
- 9.17 Completed pavement repairs shall not deviate more than 0.25 inches from the existing street surface.
- 9.18 No less than thirty (30) days and no more than sixty (60) days from the completion of the permanent pavement repair, the Utility shall inspect the excavation for settlements, cracking and other pavement defects. Any such excavation which has required repair shall then be reinspected no less than thirty (30) days and no more than sixty (60) days from the completion of the subsequent repair. The Utility shall further inspect all excavations after a one-year time period. Pavements that deviate more than 0.25 inches from the existing street surface shall be repaired by the infrared or grind and inlay methods. Surface or joint cracking 0.25 inches wide or greater shall be repaired utilizing a modified asphalt pavement sealant.
- 9.19 The Utility shall prepare, document and maintain records of these inspections and make them available to the Municipality and the Department upon request.
- 9.20 All excavations made within concrete roadways shall be repaired with concrete in depths

equal to the existing concrete .

- 9.21 Concrete used for repairs shall conform to the requirements of Mass. Highway Standards for concrete roadway construction.

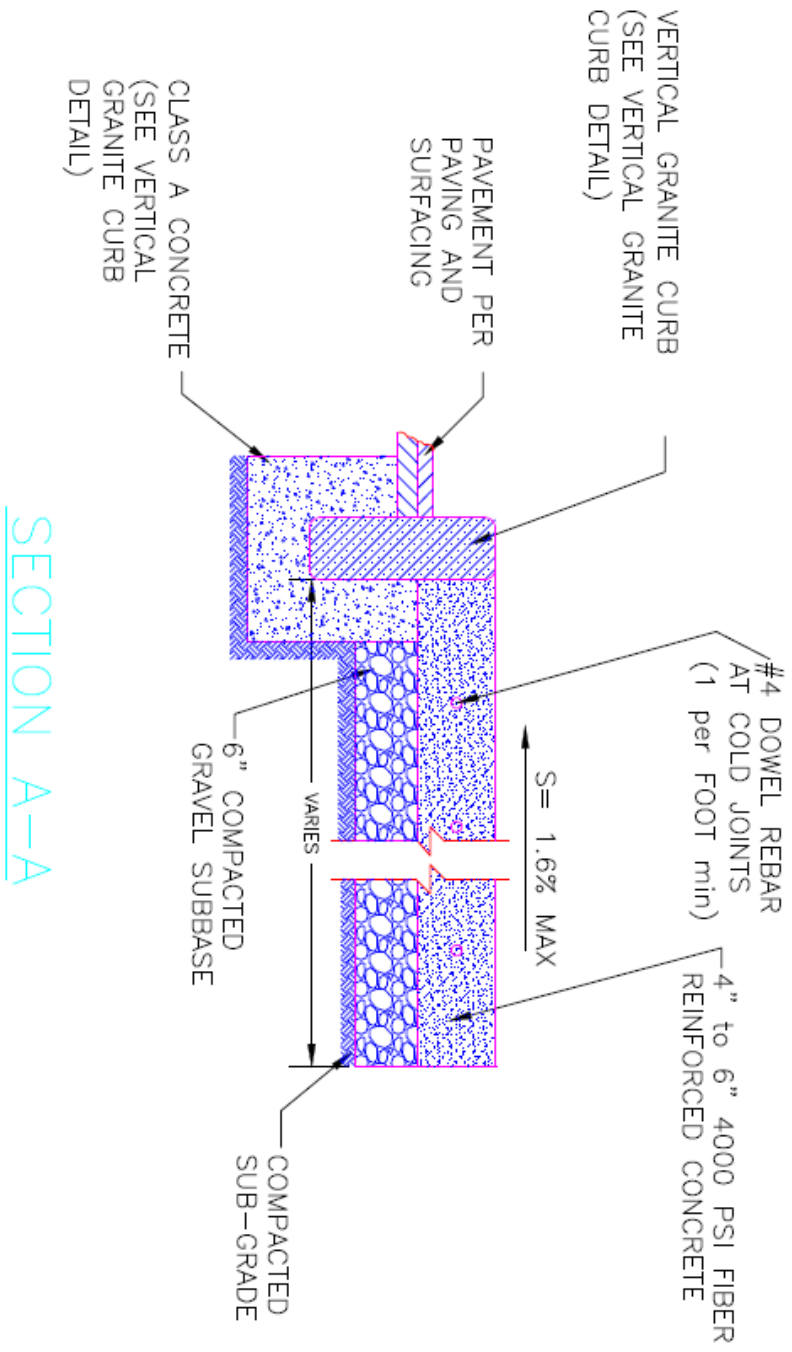
10.0 Sidewalks and Driveways

- 10.1 All work shall be performed in accordance with 521 CMR Rules and Regulations of the Architectural Access Board (AAB) and Americans with Disabilities Act (ADA).
- 10.2 A sidewalk area that is disturbed shall be restored, full width, in kind a minimum of one foot beyond the disturbed area for bituminous concrete and to the next joint line for concrete.
- 10.3 After the subgrade has been prepared, a foundation of gravel shall be placed upon it. After thorough mechanical compaction, the foundation shall be at least 8 inches thick and parallel to the proposed surface of the walk.
- 10.4 If applicable, the bituminous concrete sidewalk surface shall be laid in 2 courses to a depth after rolling of 3 inches. The bottom course shall be 1½ inches thick and its surface after rolling shall be 1½ inches below the parallel to the proposed grade of the finished surface. The top course shall be 1½ inches thick after rolling.
- 10.5 If applicable, the concrete sidewalk shall be placed in alternate slabs 30 feet in length. The slabs shall be separated by transverse preformed expansion joint filler ½ inch thick (shall conform to AASHTO- M153). Preformed expansion joint filler shall also be placed adjacent to or around existing structures.
- 10.6 On the foundation as specified above, the concrete (Air-Entrained 4000 psi, 3/4" 610) shall be placed in such quantity that after being thoroughly consolidated in place it shall be 4 inches in depth. At driveways, the sidewalk shall be 6 inches in depth.
- 10.7 Driveways shall be surfaced with Bituminous Concrete, Type I and shall be laid in two courses to a depth of three inches, after rolling, with a foundation of at least six inches of compacted gravel. The finished surface shall butt into and not overlap the existing highway grade at the road edge.
- 10.8 Driveways shall be so graded that no water shall enter the layout, pond or collect thereon, including the roadway.

11.0 Compliance with these Standards

- 11.1 Utilities shall file with the Department, by May 1 of each year, written statements or policies designed to insure that managers, supervisors and other distribution personnel are aware of, and held accountable to, these Standards.
- 11.2 Utilities shall track the success and failures of their programs to include the restorations and the inspections of such restorations. Utilities shall specify the number of failed restorations compared to the total number of restorations made during the preceding calendar year, the number of failures reported by a party other than a utility inspector and the age of the failed restoration.
- 11.3 Utilities shall record the number of failed restorations encountered during the inspections required in Section 9.19. They shall also document the cause of the failure and their policy changes to prevent the recurrence of a similar failure.
- 11.4 Utilities shall record the number of failed restorations and cost incurred when Municipalities perform the corrective action in accordance with Section 4.4.

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SECTION A-A

NOTES:
1. SIDEWALKS SHALL MATCH WIDTH AND SLOPE OF EXISTING SIDEWALKS UNLESS OTHERWISE NOTED.

			
CONCRETE SIDEWALK DETAIL - SECTION			
CITY OF FITCHBURG STANDARD SPECIFICATIONS AND DETAILS			
SCALE: N.T.S.	DATE OF ISSUE: 02/20	SPEC. SECTION REF#: 02524	2524.9

